

What is claimed is:

1. An isolated complex comprising a Q2 and a β -amyloid.
2. The isolated complex of claim 1, wherein the β -amyloid comprises animal β -amyloid 1-42, animal β -amyloid 1-38, human β -amyloid 1-42, or human β -amyloid 1-38.
3. The isolated complex of claim 1, wherein the complex is glycosylated.
4. A method of detecting in a biological sample a complex of Q2 and β -amyloid, comprising:
 - obtaining a biological sample; and
 - conducting an immunoassay or fluorescence polarization assay to recognize a Q2, a β -amyloid, or the complex of Q2 and β -amyloid.
5. The method of claim 4, comprising conducting the immunoassay with one or more antibodies recognizing Q2, β -amyloid, or the complex of Q2 and β -amyloid.
6. The method of claim 4, wherein the biological sample comprises human or animal biological material from a central nervous system.
7. The method of claim 6, wherein the biological sample comprises human or animal cerebrospinal fluid.
8. The method of claim 4, further comprising correlating a level of the complex to a level of β -amyloid aggregation in the biological sample.
9. The method of claim 4, wherein the biological sample comprises human biological material from central nervous system and the method further comprises correlating the level of the complex with a susceptibility to Alzheimer's disease.
10. The method of claim 9, wherein the biological sample comprises human biological material from central nervous system and the method further comprises

correlating the level of the complex with a likelihood of developing Alzheimer's disease.

11. The method of claim 4, wherein the biological sample comprises human biological material from central nervous system and the method further comprises correlating the level of the complex with behavioral change in a human from whom the biological sample was obtained.

12. A method of detecting aggregation of β -amyloid, comprising:
obtaining a biological sample; and
determining a level of Q2 in the biological sample.

13. The method of claim 12, further comprising correlating a decline in the Q2 level with an increase in aggregation of β -amyloid.

14. The method of claim 12, wherein the Q2 is a component of a complex comprising a Q2 and a β -amyloid.

15. The method of claim 14, further comprising correlating a decline in a level of Q2 in a complex comprising Q2 and β -amyloid with an increase in aggregation of β -amyloid.

16. The method of claim 12, wherein β -amyloid comprises animal β -amyloid 1-42, animal β -amyloid 1-38, human β -amyloid 1-42, or human β -amyloid 1-38.

17. The method of claim 12, wherein the biological sample comprises human or animal biological material from central nervous system.

18. The method of claim 17, wherein the biological sample comprises human or animal cerebrospinal fluid.

19. The method of claim 12, wherein detecting aggregation of β -amyloid comprises detecting formation of a β -amyloid plaque.

20. The method of claim 12, wherein detecting aggregation of β -amyloid comprises screening for an increased susceptibility to Alzheimer's disease.
21. The method of claim 12, further comprising screening for apoE genotype.
22. A method of screening for Alzheimer's disease, comprising:
obtaining a human biological sample;
determining a level of Q2; and
correlating the Q2 level to a susceptibility to Alzheimer's disease.
23. The method of claim 22, wherein correlating the Q2 level to the susceptibility to Alzheimer's disease comprises correlating a decline in the Q2 level with an increase in aggregation of β -amyloid.
24. The method of claim 22, wherein Q2 is a component of a complex comprising Q2 and β -amyloid.
25. The method of claim 24, further comprising determining a level of a complex comprising Q2 and β -amyloid.
26. The method of claim 24, wherein the β -amyloid in complex is β -amyloid 1-42 or β -amyloid 1-38.
27. The method of claim 22, wherein the human biological sample comprises biological material from central nervous system.
28. The method of claim 27, wherein the human biological sample comprises biological material from cerebrospinal fluid
29. The method of claim 22, further comprising correlating the level of Q2 to a level of a complex comprising Q2 and β -amyloid and a level of β -amyloid in cerebrospinal fluid.

30. The method of claim 29, wherein the β -amyloid in complex is human β -amyloid 1-42 or human β -amyloid 1-38 and the β -amyloid in cerebrospinal fluid is human β -amyloid 1-42 or human β -amyloid 1-38, respectively.
31. The method of claim 22, further comprising screening for apoE genotype.
32. The method of claim 22, wherein correlating comprises correlating the level of Q2 with a likelihood of developing Alzheimer's disease.
33. A method for treating Alzheimer's disease comprising administering an effective amount of Q2 to a relevant tissue of a subject in need thereof.
34. The method of claim 33, wherein the relevant tissue is a brain.
35. The method of claim 33, wherein the relevant tissue is cerebrospinal fluid.
36. An antibody recognizing a complex comprising a Q2 and a β -amyloid.
37. The antibody of claim 36, wherein the complex comprises human β -amyloid 1-42, human β -amyloid 1-38, animal β -amyloid 1-42, or animal β -amyloid 1-38.